

## CLAIMS

Having thus described our invention, what we claim as new and desire to secure by Letters Patent is as follows:

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1. A computer-implemented method of automatically generating a story, comprising:
- selecting a theme of said story;
  - examining elements of said theme and instantiating said theme; and
  - using said theme to select and control other aspects of the story generation.
2. The method according to claim 1, further comprising:
- inputting said elements of said theme into a stage, said stage being a collection of elements of said story and their interrelationships; and
  - inputting the stage into a simulation engine to play out a series of events over time, thereby to generate a plot, said plot including characters, their characteristics, and their respective interactions, and a history of events and their temporal relationships, said simulation engine having a predetermined randomness such that random elements from said databases are selected;
3. The method according to claim 2, further comprising:
- developing a scenario, including a plurality of activities, based on said plot generated, such that details of said activities are developed and bridged.

4. The method according to claim 3, wherein said scenarios are in a formal, logic-based language independent of a spoken language, said method further comprising:

inputting said scenarios into a natural language generator such that said scenarios are converted from said logic-based language to a natural language, said natural language being a spoken language understandable by a human reader, said conversion from said logic-based language to said natural language influencing at least one of story grammars, literary constraints, words, phrases, and sentence structure used in said scenario.

5. The method according to claim 4, further comprising:

generating a story based on an input from said language generator.

10. The method according to claim 3, further comprising:

generating a story based on an input from said language generator.

7. The method according to claim 6, further comprising:

selecting a story structure while said story is being generated such that a sequence of said story is selectively changeable.

15. The method according to claim 7, further comprising:

expanding said story according to said story structure selected.

9. The method according to claim 8, further comprising:

generating a story outline based on said story expansion.

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A2 10. The method according to claim 1, further comprising:

generating a story based on an input from said language generator.

5 11. The method according to claim 1, wherein a user selectively constrains said process at any of  
a plurality of predetermined steps of said process, such that said user may select a theme from a  
database of themes and a plot from a plot database, such that user can anchor the story to said  
choices made by the user.

12. The method according to claim 1, wherein said theme is selected from a plurality of themes  
stored in a database.

10 13. The method according to claim 1, wherein said theme is captured such that said theme  
influences other processes but are independent of said processes of the story generation.

14. The method according to claim 1, wherein said theme is captured and stored in a database in  
advance by forming a formal expression in a formal language using primitive elements provided  
in a thematic knowledge base.

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A3 15. The method according to claim 1, further comprising identifying various classes of  
knowledge, a set of computational entities and their interactions for building creative agents for

produce random, interesting artifacts in a particular language.

16. The method according to claim 1, wherein said identifying comprises identifying various system components, their roles and interactions in an architecture for computational creativity.

17. The method according to claim 1, wherein said identifying comprising identifying a notion of thematic knowledge and its role in an architecture for computational creativity.

18. The method according to claim 1, wherein said identifying comprises identifying a process of thematic instantiation and its role in an architecture for computational creativity.

19. The method according to claim 1, wherein said identifying comprises identifying the role of class of knowledge in computational creativity called impressionistic knowledge.

20. The method according to claim 1, wherein said identifying comprises identifying man-machine interfaces points for controlling a creative process executed by said system.

21. The method according to claim 1, wherein said story generation is theme-based such that said theme is selected first to constrain choices made in generating said story and to ensure that said story is about said theme.

22. The method according to claim 1, further comprising:

using literary devices in generating said story so as to influence a literary style of said

story.

23. The method according to claim 22, wherein said literary devices include a choice of words and phrase used in conveying events of said story to convey a psychological consciousness of a character of said story.

24. The method according to claim 22, wherein said literary devices are keyed to said theme.

25. The method according to claim 1, further comprising:

providing a user interface points at predetermined positions of a sequence of said story generation, such that said user selectively provides an input to constrain an aspect of said story generation.

26. A method of automatic story generation, comprising:

selecting a theme from a theme database;

using said theme to make further selection of elements of a stage of said story, such that said theme constrains choices for the function of the elements of said stage of said story;

inputting the stage elements into a simulator, said stage elements being appropriately represented for said simulator;

simulating, by said simulator, to generate a sequence of events of said story, each event of said sequence being performed by a selected character of said story, thereby to form a scenario of said story;

in parallel, selecting a story grammar for the story;

expanding said story to one of the paragraph level and the sentence level, depending upon the characteristics in said stage and the theme to influence the expansion of the story; and

linking the expansion of the story to the scenario and inputting each event into a natural

5 language generator, to produce said story in a natural language.

27. The method according to claim 26, wherein said story grammar is linked to said theme.

28. The method according to claim 26, wherein said story grammar is selected by said user and randomly selected.

100 29 A system for generating a story, comprising:

selecting a theme of said story;

examining elements of said theme and instantiating said theme; and

using said theme to select and control other aspects of the story generation.

15 30. A signal-bearing medium tangibly embodying a program of machine-readable instructions executable by a digital processing apparatus to perform a method of story generation, said method comprising:

selecting a theme of said story;

examining elements of said theme and instantiating said theme; and

using said theme to select and control other aspects of the story generation.

31. A signal-bearing medium tangibly embodying a program of machine-readable instructions executable by a digital processing apparatus to perform a method of story generation, said method comprising:

selecting a theme from a theme database;

5 using said theme to make further selection of elements of a stage of said story, such that said theme constrains choices for the function of the elements of said stage of said story;

inputting the stage elements into a simulator, said stage elements being appropriately represented for said simulator;

10 simulating, by said simulator, to generate a sequence of events of said story, each event of said sequence being performed by a selected character of said story, thereby to form a scenario of said story;

in parallel, selecting a story grammar for the story;

15 expanding said story to one of the paragraph level and the sentence level, depending upon the characteristics in said stage and the theme to influence the expansion of the story; and

linking the expansion of the story to the scenario and inputting each event into a natural language generator, to produce said story in a natural language.

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